

CLAIMS

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1. A valve holder comprising a central support member, three spaced valve support legs extending radially from said support member, each of said legs including thread guiding and attaching means at the distal end thereof, and thread collecting means associated with said central support member and adapted to collect threads passing through the thread guiding means of said valve support legs.
2. The valve holder of Claim 1 wherein said central support member comprises a hub and annular flange extending therefrom, said hub being adapted for association with said thread collecting means.
- Sub (a2)* 3. The valve holder of Claim 2 wherein said thread collecting means comprises an axle rotatable in said hub of said central support member whereby threads passing through the thread guiding means of said valve support legs are collected by rotating said axle to wind said threads therein.
4. The valve holder of Claim 3 wherein said thread collecting means includes a disk coaxially affixed at one end of said axle, said disk having thread attaching means incorporated therein.
5. The valve holder of Claim 4 wherein said central support member includes a cylindrical skirt depending from annular flange and encircling the disk of said thread collecting means, said skirt including three apertures in registry with said valve support legs for the passage of thread.

6. The valve holder of Claim 5 wherein the inner wall of said cylindrical skirt includes ratchet teeth and the <sup>base plate</sup> ~~disk~~ of said thread collecting means includes a pawl adapted to engage said teeth and permit rotation of said thread collecting means in one direction only.

7. The valve holder of Claim 3 wherein the hub of said central support member and the ~~shaft~~ <sup>axle</sup> of said thread collecting means include cooperating elements to resist axial displacement while permitting free rotation of said thread collecting means.

8. ~~The valve holder of Claim 1 wherein said thread guiding and attaching means comprise an aperture in the distal end of each valve support leg.~~

9. The valve holder of Claim 1 wherein said thread guiding and attaching means comprise an angled slot in the distal end of each valve support leg.

10. The valve holder of Claim 3 wherein said axle is drilled and tapped to receive the threaded spindle of a handle member.

11. The valve holder of Claim 7 wherein said cooperating elements comprise a circumferential groove in said axle and inward projecting cleats in said hub adapted to engage said groove.

12. A valve holder comprising a centrally positioned cylindrical support element having one open end, a coaxial hub extending from the other end of said cylindrical element and joined thereto by a radial flange;

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coaxial thread collecting means encircled by said cylindrical support element and rotatably secured thereto;

10 at least three circumferentially spaced valve support legs extending radially from said cylindrical element, each of said legs including thread guiding and attaching means at the distal end thereof; and ✓

15 thread passage means in said cylindrical element in registry with each of said valve support legs.

13. The valve holder of Claim 12 wherein said thread collecting means comprises a disk and stub axle extending from one side thereof, said axle extending into and being 20 rotatably secured within the hub of said cylindrical element.

a 25 14. The valve holder of Claim 13 wherein the inner wall of said cylindrical element includes ratchet teeth and the ~~disk~~ <sup>base plate</sup> of said thread collecting means includes a pawl adapted to engage said teeth and permit rotation of said thread collecting means in only one direction. ✓

30 15. The valve holder of Claim 13 wherein the axle of the thread collecting means and hub of said cylindrical support element include cooperating interacting means to resist axial displacement while permitting free rotation.

35 16. The valve holder of Claim 15 wherein said cooperating elements comprise a circumferential groove in said axle and inward projecting cleats in said hub adapted to engage said groove.

17. The valve holder of Claim 12 wherein said cylindrical element includes thread passages through the wall thereof in registry with said valve support legs.

5 18. In combination, a tricuspid prosthetic heart valve  
and a valve holder;

10 said valve including a stent comprising a sewing cushion  
and three fabric covered, axially extending commissure  
support struts;

15 said valve holder comprising a central support member,  
three spaced valve support legs extending radially from  
said support member, each of said legs including thread  
guiding and attaching means at the distal end thereof, and  
thread collecting means associated with said central sup-  
port member and adapted to collect threads passing through  
the thread guiding means of said valve support legs;

20 said valve holder being positioned on the sewing cushion  
of said valve with the valve support legs in registry with  
said commissure support struts and attached to said sewing  
cushion by means of threads, each of said threads being  
attached at one end to the distal end of a valve support  
25 leg and passing therefrom through said sewing cushion,  
thence through the fabric cover at the tip of the corres-  
ponding commissure support strut, thence extending to the  
next adjacent commissure support strut and passing through  
the fabric cover at the tip thereof, thence passing  
30 through the sewing cushion and through the thread guide  
means in the distal end of the corresponding valve support  
leg, and thereupon extending to and being attached to said  
thread collecting means, whereupon the tips of the commis-  
sure support struts are drawn toward one another as said  
35 threads are collected by said thread collecting means.

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19. The combination of Claim 18 wherein said valve is a porcine tissue valve mounted on said stent.

20. The combination of Claim 18 wherein said central support member of said valve holder comprises a hub and annular flange extending therefrom, said hub be adapted for association with said thread collecting means.

21. The combination of Claim 20 wherein said thread collecting means of said valve holder comprises an axle rotatable in said hub of said central support member whereby threads passing through the thread guiding means of said valve support legs are collected by rotating said axle to wind said thread therein.

22. The combination of Claim 21 wherein said thread collecting means includes a disk coaxially affixed at one end of said axle, said disk having thread attaching means incorporated therein.

23. The combination of Claim 22 wherein said central support member includes a cylindrical skirt depending from annular flange and encircling the disk of said thread collecting means, said skirt including three apertures in registry with said valve support legs for the passage of thread.

24. The combination of Claim 23 wherein the inner wall of said cylindrical skirt includes ratchet teeth and the ~~disk~~ <sup>plate</sup> of said thread collecting means includes a pawl adapted to engage said teeth and permit rotation of said thread collecting means in one direction only.

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Sub B3

Sub a4

on  
10-12-04

Sub a5  
on  
10-12-04

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